

REMARKS

The present amendment is submitted in response to the Office Action mailed June 12, 2007. Claims 1 and 4-13 remain in this application. In view of the amendments above and the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Objections to the Drawings

In the Office Action, the drawings were objected to for failing to comply with 37 CFR 1.21(d) because Figures 1a through 1i are difficult to interpret and do not clearly display the claimed invention. Applicants respectfully request withdrawal of the drawings objection and approval of the enclosed proposed drawing changes.

112 Rejections

Claims 1 – 14 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Claims 1 and 4 – 13 have been amended in a manner which is believed to overcome the rejection.

Rejections under 35 U.S.C. §103(a)

Claims 1, 5, 8-10, 12 and 13 were rejected under 35 U.S.C. §103 (a) as being unpatentable over U.S. Patent No. 4,862,445 – Sasaki in view of U.S. Patent No. 5,878013 – Maeda et al. (hereinafter Maeda)

Regarding Claim 1, the Office Action states that Sasaki discloses a device for scanning a disc-shaped data carrier and a data carrier plate, which data carrier plate features a receptacle for the data carrier and with a transport system which is held adjustably between a loading position and an operating position for transporting the data carrier between an inlay position and a scanning position, in which scanning position the data carrier is located on the data carrier plate for scanning and with guide elements, which guide elements are designed in such a way that the data carrier can be displaced by a combined slide and swivel action between the inlay position and where the scanning position is at a higher level than the inlay position.

The Office Action cites Maeda for curing a deficiency in Sasaki. Specifically, Maeda is cited for disclosing a pivotable data carrier plate.

Independent Claim 1 has been amended herein to better define Applicant's invention over Sasaki and Maeda, individually and in combination.

Claim 1 now recites limitations and/or features which are not disclosed by Sasaki and Maeda, individually and in combination. In particular, Applicant's presently amended independent claim 1 recites

1. (Currently Amended) A device (1) for scanning a disc-shaped data carrier (2),

the device comprising:

 a frame (10),

 a transport system (5) held adjustably between a loading position

and an operating position, the transport system (5) comprising a main element (6) and a tray (7) portion, the tray (7) portion being movably arranged on the main element (6) and configured to hold the data carrier (2) and load the data carrier (2) on a pivotable data carrier plate (4) of the device (1) for scanning the data carrier (2),

 guide elements (11, 12) attached to the frame, the guide elements designed for guiding the transport system (5) between the loading position and the operating position, the main element (6) and the tray (7) portion being linked to the guide elements (11, 12) via two sliding blocks (17, 18) which slide along the guide elements (11, 12),

 the device being arranged so that the transport system (5) slides along the guide elements (11, 12) such that during a first portion of the movement between the loading position and the operating position the coupled main element (6) and tray portion (7), starting in a vertically neutral position, execute a joint sliding action and during a second portion of the movement, the tray (7) portion executes an upward swivel action relative to the main element (6) while the main element (6) remains stationary,

 wherein the operating position of the data carrier (2) is at a higher level than the loading ~~in~~lay position.

Claim 1, as amended, incorporates the limitation of Claims 2 and 3, which are cancelled herein, without prejudice. In light of having incorporated the limitations of Claim 2, Applicant will address the Office Action rejection of Claim 2, and more specifically, the Examiner's assertion that it would have been obvious to provide the tray of Sasaki with the main transport of Koken, because the main transport of Koken sliding tray with Maeda's swiveling tray will ensure that the front edge if raised above the spindle motor as the main transport element is retracted into the disc drive.

It is respectfully submitted that none of the cited references, alone and in combination, teach the portion of claim 1 which recites –

a device being arranged so that the transport system (5) slides along the guide elements (11,12) such that during a first portion of the movement between the loading position and the operating position the coupled main element (6) and tray portion (7) execute a joint sliding action and during a second portion of the movement, the tray (7) portion executes an upward swivel action relative to the main element (6) while the main element (6) remains stationary, [Emphasis Added]

That is, none of the references, alone and in combination, teach a main element (6) and tray portion (7) jointly executing a sliding action during a first portion of the movement and the tray (7) solely executing an upward swivel action, while the main element remains stationary, during a second portion of the movement.

The Office Action states that the transport system of Koken, comprising a main element, only executes a sliding action during the displacement of the data carrier between the inlay position and the scanning position. In other words, the main element executes the sliding action from the loading position to the operating position. It does not remain stationary for any period of time there-between. Similarly, Sasaki and Maeda disclose a continuous displacement (sliding action) of the tray from the loading position to the operating position. Maeda discloses -

Accordingly, the rack 58 is engaged with the pinion 57c, and when the pinion 57c rotates, the rack 58 moves in the longitudinal direction Y1-Y2 together with the tray 1, thereby allowing to move between the disk exchange position and recording and reproducing position.

To further distinguish the invention over Sasaki, Claim 1, as amended, recites
inter alia, that the tray portion starts in a vertically neutral position.

1.the device being arranged so that the transport system (5) slides along the guide elements (11,12) such that during a first portion of the movement between the loading position and the operating position the coupled main element (6) **and tray portion (7), starting in a vertically neutral position,** execute a joint sliding action and during a second portion of the movement, the tray (7) portion executes an upward swivel action relative to the main element (6) while the main element (6) remains stationary.....

Sasaki discloses that the disk tray 200, in its outwardly projected position, is vertically inclined, relative to the chassis.

Sasaki discloses at Col. 5, lines 32 – 51:

The above constructed mechanism operates as follows. The disk tray 200, **when it is at its outwardly projected position, is vertically inclined relative to the chassis 100** as illustrated in FIG. 9, and the rollers 624, 625, 147 and 148 cooperate for holding the disk tray 200 in its inclined state. Further, a pair of downwardly bent plates 212, 213 of the disk tray 200 contact a pair of stoppers 112, 113 planted on the bottom plate 110 of the chassis 100. More particularly, the guide wings 210, 211 passes through the pairs of upper and lower rollers 624, 147 and 625, 148 to be slidably guided. Thus, under this condition, the disk tray 200 is feedable inside the disk player while maintaining its vertically inclined state as illustrated in FIG. 10. In the meantime, a pair of supporting plates 629, 629 are inwardly projected under the rollers 624, 625 from the inner surfaces of the side walls 622, 623, respectively, of the disk clamp member 600, for supplementally supporting the disk tray 200 between the rollers 624, 625 and the supporting plates 629, 629.

It should be appreciated that the invention overcomes drawbacks of the prior art, as embodied by the cited references. In particular, Conventional CD or DVD drives generally feature, by way of transport system, a loading unit which is designed for the purpose of transporting the data carrier and with the aid of which the data carrier can be brought from an inlay position to a scanning position, in which scanning position the data carrier is located on the data carrier plate (disc plate) for scanning, i.e. for playing back and recording. The data carrier, in its inlay position, then normally lies at a higher level than in its scanning position because the data carrier has to be slid via the data carrier plate and, by lowering the data carrier with the data carrier plate, is then coupled or rests on the data carrier plate. Alternatively, the data carrier plate and a data carrier plate drive unit are raised to the level of the data carrier in its scanning position. However, the equipment-related expense for the last solution mentioned is particularly high. In the method mentioned above, which is applied more frequently, in which the loading unit, following a horizontal sliding movement in the direction of the data carrier plate, is lowered together with the data carrier, the design height of devices with such CD drives is relatively large or high. This is also compounded by the fact that, for optical reasons, an insert opening, through which the loading unit can be moved, is generally provided in one such device in the vertical middle of the device, as a result of which the overall height is increased yet further. Such playback and recording devices for disc-shaped data carriers, in which the loading unit is located in the upper portion of the playback and recording devices, can be designed with a lower design height, although they are

unsuitable to be integrated into specially designed devices, such as DVD players with side bevels, as are frequently used at present, as they cannot be installed space-efficiently in the area of the side bevels of the device.

It is therefore an object of the present invention to create a device for scanning a disc-shaped data carrier, which device has as low a design height as possible, even if the insert opening for the transport system is located in the vertical middle of the device. Furthermore, a device in accordance with the invention should be able to be used in standard units to drive the data carriers. Furthermore, a device in accordance with the invention should be designed as simply, as robustly and as cost-efficiently as possible.

Accordingly, it is believed that Applicant's Claim 1, as amended, recites patentable subject matter, and therefore, withdrawal of the rejections with respect to Claim 1 and allowance thereof is respectfully requested.

Claims 1, 5, 8-10, 12 and 13 depend from independent Claim 1 and therefore contain the limitations of Claim 1 and are believed to be in condition for allowance for at least the same reasons given for Claim 1 above. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) and allowance of Claims 1, 5, 8-10, 12 and 13 is respectfully requested.

35 U.S.C. §103(a)

Dependent Claims 2- 4, 11 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sasaki and Maeda, as applied to Claim 1 above, and further in view of Koken.

Claims 4 and 11 depend from independent Claim 1 and therefore contains the limitations of Claim 1. Hence, for at least the same reasons given for Claim 1, Claims 4 and 11 are believed to be allowable over the cited references, alone and in combination.

Accordingly, applicants respectfully request that the rejection under 35 U.S.C. §103(a) with respect to Claims 4 and 11 and allowance thereof is respectfully requested.

35 U.S.C. §103(a)

Dependent Claims 6 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sasaki and Maeda, as applied to Claim 5 above, and further in view of U.S. Patent No. 6,021,104 – Shiomi.

Claims 6 and 7 depend from independent Claim 1 and therefore contains the limitations of Claim 5, which in turn is dependent on Claim 1. Hence, for at least the same reasons given for Claim 1, Claims 6 and 7 are believed to be allowable over the cited references, alone and in combination.

Accordingly, applicants respectfully request that the rejection under 35 U.S.C. §103(a) with respect to Claims 6 and 7 and allowance thereof is respectfully requested.

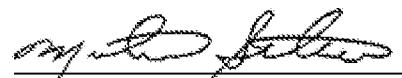
Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1 and 4-13 are

believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Mr. Mike Belk, Intellectual Property Counsel, Philips Electronics North America, at 914-945-9643.

Respectfully submitted,



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